



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,583	08/05/2003	Taku Kanaoka	XA-9913	8647
181	7590	07/13/2005	EXAMINER	
MILES & STOCKBRIDGE PC 1751 PINNACLE DRIVE SUITE 500 MCLEAN, VA 22102-3833			MANDALA, VICTOR A	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/633,583

Applicant(s)

KANAOKA ET AL.

Examiner

Victor A. Mandala Jr.

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 2,6,7,9,10 and 16-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,11 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 8 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/5/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 16-35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/16/04.
2. Claims 2, 6, 7, 9, 10, and 36-41 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 4/29/05.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3, 4, and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the limitations of 5, 10, & 50% occupation rates mean. 5, 10, & 50% of what? What is the reference? Any further explanation to aid a better understanding is requested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,297,563 Yamaha.

4. Referring to claim 1, a semiconductor device, comprising: plural electrode pads, (Figure 1 #32b and Figure 3), arranged within active regions of a main surface of a semiconductor chip, (Figure 1 top of layer #22); and plural wiring layers, (Figure 1 #26b), arranged over the main surface of said semiconductor chip, (Figure 1 top of layer #22), wherein in at least one wiring layer, (Figure 1 #26b), selected among said plural wiring layers, (Figure 1 #26b), and arranged below the plural electrode pads, (Figure 1 #32b), occupation rates of wirings, (Figure 1 #26b), arranged in the respective planar regions of the plural electrode pads, (Figure 1 #32b), become uniform, (Figure 1 & 3).

5. Referring to claim 3, a semiconductor device, (insofar as to understand from the 112 rejection), wherein the occupation rates of wirings, (Figure 1 #26b), arranged within the planar regions of said plural electrode pads, (Figure 1 #32b), are, respectively, at 50% or over.

6. Referring to claim 4, a semiconductor device, (insofar as to understand from the 112 rejection), wherein variations in the occupation rates of wirings, (Figure 1 #26b),

Art Unit: 2826

arranged within the planar regions said plural electrode pads, (Figure 1 #32b), are, respectively, within 10%.

7. Referring to claim 5, a semiconductor device, (insofar as to understand from the 112 rejection), wherein variations in the occupation rates of wirings, (Figure 1 #26b), arranged within the planar regions said plural electrode pads, (Figure 1 #32b), are, respectively, within 5%

8. Referring to claim 15, a semiconductor device, wherein a semiconductor element is formed in the semiconductor chip within said active regions, (Col. 5 Line 52 states a semiconductor device, which it is inherent that a semiconductor device contains active and semiconductive elements).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,297,563 Yamaha.

9. Referring to claim 13, a semiconductor device, wherein a wiring-removed portion, (this is a process limitation and where the device claims are based upon the final structure of the device, hence a removal of a part of the device that is not found in the final device is found obvious, see on the next page), is formed at part the wirings, (Figure 1 #26b), arranged within planar regions said plural electrode pads, (Figure 1 #32b).

Art Unit: 2826

Initially, and with respect to claim 13, note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Fitzgerald, 205 USPQ 594, 596 (CCPA); In re Marosi et al., 218 USPQ 289 (CAFC); and most recently, In re Thorpe et al., 227 USPQ 964 (CAFC, 1985) all of which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that Applicant has burden of proof in such cases as the above case law makes clear.

As to the grounds of rejection under section 103, see MPEP § 2113

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,297,563 Yamaha in view of U.S Patent Application Publication No.

2002/0121701 Furuhashi.

Art Unit: 2826

10. Referring to claim 11, a semiconductor device, wherein a bump electrode, (Furuhata Paragraph 0054 Lines 4-6), is bonded to said plural electrode pads, (Yamaha Figure 1 #32b), respectively.

Yamaha discloses the claimed invention except for the bonding pad with a bump connection but Furuhata teaches the use of a bonding pad with a bonding bump, (Furuhata Paragraph 0054 Lines 4-6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the bonding pad with a bump connection, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,297,563 Yamaha in view of U.S Patent Application Publication No.

2002/0019082 Wong.

11. Referring to claim 14, a semiconductor device, wherein a circuit for driving a liquid crystal display is formed in the main surface of said semiconductor chip.

Yamaha teaches all of the claimed matter in claim 14, but is silent on the function of the device as a driver for an LCD, but Wong teaches the use of a bonding pad in a LCD,

Art Unit: 2826

(Wong Paragraph 0004 Lines 1-6). It would have been obvious to one having skill in the art at the time the invention was made to combine the teachings of Yamaha with the teachings of Wong because in reference to the claim language referring to [the function of a circuit for driving a liquid crystal display is formed in the main surface of said semiconductor chip], intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

Allowable Subject Matter

12. Claims 8 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

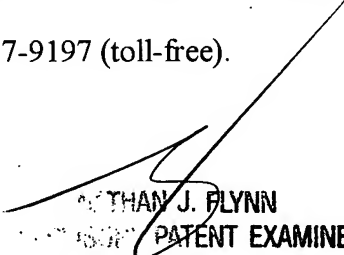
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor A. Mandala Jr. whose telephone number is (571) 272-1918. The examiner can normally be reached on Monday through Thursday from 8am till 6pm.

Art Unit: 2826

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VAMJ
7/9/05



NATHAN J. FLYNN
PATENT EXAMINER
TECHNOLOGY CENTER 2800